

PROPOSED AMENDMENTS TO AIR TOXICS STANDARDS FOR PERCHLOROETHYLENE DRY CLEANERS

FACT SHEET

ACTION

- On December 9, 2005, the Environmental Protection Agency (EPA) proposed regulations to reduce the health risks posed by perchloroethylene dry cleaners. As part of this proposal, the EPA also is seeking additional information on how the Agency might be able to reduce risks even further.
- EPA is basing the proposal on a recent review of dry-cleaning technology as well as recent analyses of the health risks that remain since implementation of the Agency's 1993 air toxics regulation for perchloroethylene dry cleaners. Air toxics, also known as hazardous air pollutants, are known or suspected to cause cancer or other serious health or environmental effects.
- Perchloroethylene, also known as perc, PCE, tetrachloroethylene and tetrachloroethene, is a solvent used in dry cleaning. Approximately 28,000 U.S. dry cleaners use perchloroethylene, which is the only air toxic emitted from the dry cleaning process.
- EPA is seeking comment on a number of aspects of this proposal, especially on risks and emission-reduction technology related to small dry cleaners located in apartment buildings.
- EPA will accept public comments on the proposal for 45 days following publication in the Federal Register. See the end of this fact sheet for instructions on submitting comments. EPA is under a court order to issue a final rule by April 28, 2006.
- The proposed rules would affect three types of dry cleaners that use perchloroethylene: large, industrial and commercial dry cleaners; freestanding smaller dry cleaners; and smaller dry cleaners located in apartment buildings.

HOW THE PROPOSAL WOULD REDUCE RISK

- In developing risk-based standards to reduce health risks from air toxics, EPA strives to ensure that those standards provide the maximum feasible amount of protection by:
 - Limiting an individual's cancer risk to approximately 100 in 1 million. This means that a person living near a facility and exposed to maximum concentrations of a pollutant for a 70-year-lifetime would have no more than a 100 in 1 million chance of getting cancer as a result.
 - Reducing individual cancer risks for a larger population to no higher than approximately one in 1 million.

- All risk estimates contain uncertainties. It is impossible to know exactly how many people may get cancer from breathing certain concentrations of a chemical (in this case perc).
- The three types of perchloroethylene dry cleaners are associated with different levels of risk.

Large Industrial & Commercial Dry Cleaners

- Large industrial and commercial dry cleaners are classified as “major sources,” meaning they emit more than 10 tons of perchloroethylene a year. There are 15 of these large dry cleaners in the United States. These dry cleaners are covered by EPA’s 1993 maximum achievable control technology (MACT) standards.
- An estimated 9 million people live within about six miles of these major source dry cleaners. The risks to these people can range as high as 2,400 in a million, although risks that high are rare. However, EPA estimates that a significant number of those people (1,200 people) could have a risk above what EPA considers acceptable.
- The proposed amendments would reduce these risks by up to 90 percent by requiring that new and existing large industrial & commercial perchloroethylene dry cleaners:
 - ▶ Meet equipment standards, which include closed-loop dry cleaning systems (systems that don’t vent to the outside air) with refrigerated condensers that recover perchloroethylene solvent from perchloroethylene vapors, and carbon adsorbers, which trap perchloroethylene emissions and prevent them from reaching the outside air.
 - ▶ Conduct enhanced leak detection and repair (LDAR) on a monthly basis, using a photoionization detector (or similar leak detection device) to detect perchloroethylene leaks from equipment, repair such leaks and maintain records.

Freestanding Small Dry Cleaners

- Freestanding small dry cleaners are the type of dry cleaner you might see in a strip shopping center or as a stand-alone building. These dry cleaners are classified as “area sources,” which means they emit less than 10 tons of perchloroethylene each year. These smaller dry cleaners are covered by emissions standards known as generally available control technology (GACT) standards, issued in 1993.
- There are about 27,000 freestanding small dry cleaners in the United States. Estimated risk to most people living near these dry cleaners generally is below 10 in 1 million. While risks can be higher in some cases, they generally are not estimated to reach the level EPA considers unacceptable.
- The proposed amendments would reduce these risks by about 20 percent. The proposal would require *new* freestanding small area source dry cleaners to:

- Meet *equipment standards, which include* closed loop systems with refrigerated condensers and carbon absorbers. These are the same standards that would apply to major sources.
 - Conduct enhanced LDAR using a halogenated hydrocarbon detector to detect perchloroethylene leaks, repair such leaks and maintain records.
- In addition, the proposal would require *existing* freestanding small dry cleaners to:
 - Eliminate all transfer machines (machines requiring the movement of wet clothes from one machine to another for drying). Transfer machines are considered the highest-emitting type of dry cleaning equipment. Approximately 200 of these machines currently are in use.
 - Conduct enhanced LDAR using a halogenated hydrocarbon detector to detect perchloroethylene leaks, repair such leaks and maintain records.

Small Dry Cleaners in Apartment Buildings

- About 1,300 small “area source” dry cleaners using perchloroethylene are located on the ground floor of residential buildings. Like freestanding small dry cleaners, these co-residential cleaners are covered by emissions standards known as generally available control technology (GACT) standards, issued in 1993.
- Co-residential facilities pose a unique exposure scenario. Because apartments in these buildings are located very close to these dry cleaners, residents’ exposures and their estimated cancer risks can be much higher than for typical area sources. Based on the data evaluated for this proposal, estimated maximum cancer risks for people living in some of these buildings might be in excess of 100 in 1 million.
- EPA is proposing two options for addressing co-residential dry cleaners.

Option 1- Residual Risk Proposal

- ▶ Under this option, *existing* co-residential dry cleaners would have to eliminate transfer machines and meet the same monitoring, leak detection and repair, and recordkeeping requirements as freestanding small dry cleaners. *New* dry cleaners in residential buildings would not be allowed to use perchloroethylene.
- ▶ In addition, *existing* dry cleaners in residential buildings could not install any new perchloroethylene machines when current perc machines wear out. This would eventually phase out the use of perchloroethylene by dry cleaners in apartment buildings.
- ▶ These proposed amendments are expected to eliminate cancer risks from new co-residential dry cleaners and would gradually reduce risk from existing co-residential dry cleaners. However, risks from these co-residential facilities could remain significantly higher than EPA considers acceptable in some buildings until the phase-out of perchloroethylene machines is complete.—

- ▶ In an effort to reduce those risks more quickly, EPA is requesting additional information to help better characterize exposures and risks from perchloroethylene dry cleaners located in residential buildings. In addition, EPA is seeking information about technologies that could help further reduce those risks.

Option 2 – Technology Proposal

- ▶ Under the second option, EPA would issue nation-wide technology requirements based on the New York State Department of Environmental Conservation’s dry cleaning regulations, the most stringent technology requirement in the U.S.
- ▶ The New York rules require that dry cleaning machines at co-residential facilities have refrigerated condensers that recover perchloroethylene solvent from perchloroethylene vapors, and carbon absorbers, which trap perchloroethylene emissions and prevent them from reaching the outside air. In addition, these dry cleaners would have to house perc equipment inside a vapor barrier that helps prevent perc emissions from escaping, thereby helping prevent exposure. Other New York requirements include weekly leak inspections, annual third-party inspections and certification by an approved training program.
- ▶ Most dry cleaners in apartment buildings are in New York and already meet these requirements. EPA estimates that some 240 dry cleaners across the country would have to upgrade equipment to meet the standards in this second option.
- ▶ For this option, EPA is seeking data on the emission levels, exposure and risks that may remain after facilities meet the New York level of control. EPA is also seeking comment on additional technologies that would reduce risks further.

COSTS TO INDUSTRY

- Industry-wide capital costs for complying with the proposed rules would be an estimated \$830,000 for the large commercial/industrial dry cleaners. These cleaners would save an estimated \$220,000 per year, primarily from implementing enhanced leak detection and repair.
- For all existing smaller “area source” drycleaners (freestanding and co-residential), capital costs are approximately \$7.3 million, industry wide. EPA estimates these facilities will save about \$2.7 million per year, as a result of implementing enhanced leak detection and repair, and through the replacement of transfer machines with machines that use less perc.
- For co-residential sources, the proposed option to prohibit new perc machines would result in a capital cost of approximately \$8.6 million, and annual costs of about \$950,000 across the industry. These costs would be incurred when existing sources replace perc equipment at the end of its useful life (about 15 years). The proposed option for technology standards similar

to the New York standards would result in an estimated \$3 million in capital costs, and annual costs of about \$500,000.

- Many existing dry cleaners already are achieving the equipment standards these amendments would require. Most affected facilities would have to comply with the new requirements within 90 days after publication of the final amendments in the Federal Register.
- Facilities that began construction between proposal of the 1993 MACT standards (December 9, 1991) and today's proposal will have 10 years from the date construction began to comply with the new requirements.

BACKGROUND

- The Clean Air Act requires EPA to regulate air toxics from large industrial facilities in two phases.
- In the first, technology-based phase, EPA develops standards for controlling the emissions of air toxics from sources in an industry group, or "source category." These standards, known as maximum achievable control technology, or "MACT" standards, are based on the emissions levels of the better-controlled and lower-emitting facilities in an industry. EPA finalized the perchloroethylene dry cleaning MACT standards in September of 1993.
- EPA's Science Advisory Board has identified perchloroethylene as a possible to probable human carcinogen. Exposure to perchloroethylene has been linked to the development of liver tumors in mice. Epidemiological studies have shown mixed results, with some studies reporting increased incidence of a variety of tumors and other studies not reporting carcinogenic effects.
- Exposure to perchloroethylene also is associated with chronic, non-cancer health effects, including liver and kidney damage in rodents, and neurological effects in humans. Acute exposures can result in loss of coordination; eye, nose and throat irritation; and headache.
- Dry cleaners have reduced perchloroethylene usage by 30,000 tons a year since EPA's technology-based air toxics standards for perchloroethylene were implemented. This reduction in perchloroethylene usage resulted from increased use of alternative dry cleaning solvents, the replacement of older dry cleaning machines, and state and industry programs to improve machine efficiencies and reduce perchloroethylene use. As a result of these changes, emissions are estimated to have dropped by about 15,000 tons.
- In the second phase (within eight years of issuing MACT standards), EPA is required to assess the remaining health risks from each industry group to determine whether the standards protect public health with an adequate margin of safety. EPA must apply a risk-based approach to determine whether more health-protective standards are necessary. If more protective standards are needed, EPA amends the MACT standards to add what is known as

“residual risk standards.”

- The Clean Air Act also requires that EPA review the technology-based standards every eight years and revise them, if necessary, to account for improvements in air pollution controls and/or prevention.

FOR MORE INFORMATION AND TO SUBMIT COMMENTS

- To download the notice from EPA's web site on the Internet, go to “Recently Actions” at the following address: <http://www.epa.gov/ttn/oarpg/ramain.html>.
- Today's proposed action and other background information are also available either electronically in EPA's electronic public docket and comment system, or in hard copy at EPA's Docket Center, Environmental Protection Agency, Room B-102, 1301 Constitution Avenue, NW, Washington, DC (Docket ID No. OAR-2005-0155). The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the EPA Docket Center is (202) 566-1742.
- **HOW TO COMMENT:** EPA will accept comments for 45 days beginning when this proposal is published in the Federal Register. All comments should be identified by Docket ID No. OAR-2003-0161 and submitted by one of the following methods:
 - EDOCKET: <http://www.epa.gov/edocket/>. EDOCKET, EPA's electronic public docket and comment system, will be replaced by an enhanced Federal-wide electronic docket management and comment system located at www.regulations.gov. When that occurs, you will be redirected to that site to access the docket and submit comments. Follow the on-line instructions.
 - E-mail (a-and-r-docket@epa.gov);
 - Facsimile (202) 566-1741 and (919) 541-5689;
 - U.S. Mail (EPA Docket Center, Environmental Protection Agency, Mail code: 6102T, 1200 Pennsylvania Avenue, NW, Washington, DC 20460); or
 - Hand delivery (EPA Docket Center, Environmental Protection Agency, Room B-102, 1301 Constitution Avenue, NW, Washington, DC).
- Please include a total of two copies. EPA requests a separate copy also be sent to the contact person identified below. In addition, please mail a copy of your comments on the information collection provisions to the Office of Information and Regulatory Affairs, Office of Management and Budget, Attn: Desk Officer for EPA, 725 17th St., NW, Washington, DC 20503.
- For additional information contact Rhea Jones of EPA's Office of Air Quality Planning and Standards at jones.rhea@epa.gov.